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(54) Title: METHOD FOR IDENTIFYING CHARACTERISTICS OF MOLECULES

(57) Abstract: The present invention is a method for identifying one or more characteristics of a target molecule, and comprises the steps of: converting the characteristics of the molecule into a polynucleotide of defined sequence, wherein each characteristic is represented by at least one distinct unit on the polynucleotide, the unit comprising at least a single base; contacting the polynucleotide with at least one of the nucleotides dATP, dTTP (dUTP), dGTP and dCTP, under conditions that permit the polymerisation reaction to proceed, wherein the at least one nucleotide comprises a detectable label specific for the nucleotide; removing any non-incorporated nucleotides and detecting any incorporation events; removing any labels; and repeating steps (ii) to (iv) to thereby identify the different units, and thereby the characteristics of the molecule.

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